

**UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
087638-087	08/12/98	ALBRECHT	000000

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18M2/1020

TRAN EXAMINER

ART UNIT

PAPER NUMBER

10/20/97

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action SummaryApplication No.
08/589,587Applicant(s)
ALBRECHT ET AL.Examiner
Paul B. TranGroup Art Unit
1807

- ☐ Responsive to communication(s) filed on _____.
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

- ☒ Claim(s) 1-14 is/are pending in the application.
- Of the above, claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-14 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claims _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

- ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- ☒ Notice of References Cited, PTO-892
- ☒ Information Disclosure Statement(s), PT()-1449, Paper No(s). 2
- ☐ Interview Summary, PTO-413
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152
- ☒ notice to comply w/ sequence rule

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

Serial Number: 08/689,587

Page 2

Art Unit: 1807

DETAILED ACTION

1. This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 CFR 1.821(a)(1) and (a)(2). A computer readable form (CRF) of the sequence listing was submitted. However, the CRF could not be processed by the Scientific and Technical Information Center (STIC) for the reason(s) set forth on the attached CRF Diskette Problem Report.

Applicant is given ONE MONTH, or THIRTY DAYS, whichever is longer, from the date of this letter within which to comply with the sequence rules, 37 CFR 1.821 - 1.825. Failure to comply with these requirements will result in ABANDONMENT of the application under 37 CFR 1.821(g). Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a). In no case may an applicant extend the period for response beyond the SIX MONTH statutory period. Direct the response to the undersigned. Applicant is requested to return a copy of the attached CRF Diskette Problem Report with the response.

2. The disclosure is objected to because of the following informalities:

A) Applicant is required to update the status of the priority applications as set forth in the beginning of the specification.

B) Page 20, Table IV, first column, the last letter of the word "oligonucleotide" is separated from the word.

Serial Number: 08/689,587

Page 3

Art Unit: 1807

C) Claim 13, line 1, the term "strand" is misspelled as "stand."

3. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are vague and indefinite because it is unclear as to the limit of hybridization in the context of the phrase "minimally cross-hybridizing." The specification provides no hybridization limitations or ranges that would define the minimal value or degree of cross-hybridization. For that reason, the claims do not set forth the metes and bounds of the patent protection desired with respect to the limitation "minimally cross-hybridizing set of oligonucleotides."

4. Claims 1-14 are allowable over the prior art of record. The claims are drawn to a double stranded encoded probe and to methods using such encoded probes for sequencing, identifying and sorting polynucleotides. The claims distinguish over the prior art because the encoded probe, claimed as a product or used in the method claims, comprises a protruding strand, which is for hybridizing and ligating to the target polynucleotides, and an oligonucleotide tag, which is used for identifying the hybridizing probe, thus the identification or sequence of the hybridizing target polynucleotide. The prior art does not teach or suggest a probe having two components, one of which is that the probe having a protruding strand and the other is the presence of the oligonucleotide tag. Nor does it teach or suggest methods for sequencing, identifying and sorting

Serial Number: 08/689,587

Page 4


Art Unit: 1807

polynucleotides using oligonucleotide tags. The closest prior art is Brennan et al. (U.S. Patent No. 5,403,708), which discloses a method of determining a sequence of a nucleic acid by forming a ligase-catalyzed ligation complex which includes a template, a primer hybridizing thereto, and a probe from a random pool of oligonucleotides, which hybridizes to the template at a location adjacent to the primer; Deugau et al. (U.S. Patent No. 5,508,169), which discloses a set of index linkers which are used to index DNA fragments cleaved with a type II's restriction nuclease and to amplify DNA fragments containing indexed linkers at both ends; Church et al. (EP 0 303 459), which discloses a method of multiplex sequencing in which a tag sequence inserted in a vector is used; Wong et al., discloses a method of producing a sequence tag.

Any inquiry concerning this communication or those earlier from the examiner should be directed to Paul B. Tran, Ph.D., whose telephone number is (703) 308-4040.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose phone number is (703) 308-0196.

Paper related to this application may be submitted to Group 1800 by facsimile transmission. Papers should be faxed to the Chemical Matrix Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The facsimile numbers are (703) 305-3014 and (703) 305-4227. Information related to facsimile transmission should be directed to (703) 308-9378.

Paul B. Tran, Ph.D. 
Art Unit 1807
10/10/97


W. GARY JONES
SUPERVISORY PATENT EXAMINER
GROUP 1800

10/10/97